

[illegible]

**CR
VO4**

.....

:

```

CCCCCCCCC  RRRRRRRR  EEEEEEEEEEE  AAAAAA  TTTTTTTTTT  EEEEEEEEEEE
CCCCCCCCC  RRRRRRRR  EEEEEEEEEEE  AAAAAA  TTTTTTTTTT  EEEEEEEEEEE
CC          RR          EE          AA          TT          EE
CC          RR          EE          AA          TT          EE
CC          RR          EE          AA          TT          EE
CC          RR          EE          AA          TT          EE
CC          RRRRRRRR  EEEEEEEEEEE  AA          AA          TT          EEEEEEEEEEE
CC          RRRRRRRR  EEEEEEEEEEE  AA          AA          TT          EEEEEEEEEEE
CC          RR   RR   EE          AAAAAAAAAA  TT          EE
CC          RR   RR   EE          AAAAAAAAAA  TT          EE
CC          RR      RR  EE          AA          AA          TT          EE
CC          RR      RR  EE          AA          AA          TT          EE
CC          RR      RR  EE          AA          AA          TT          EE
CC          RR      RR  EE          AA          AA          TT          EE
          CCCCCCCCC  EEEEEEEEEEE  AA          AA          TT          EEEEEEEEEEE
          CCCCCCCCC  EEEEEEEEEEE  AA          AA          TT          EEEEEEEEEEE

```

```

LL          IIIIII  SSSSSSSS
LL          IIIIII  SSSSSSSS
LL          II      SS
LL          II      SS
LL          II      SS
LL          II      SS
LL          II      SSSSSS
LL          II      SSSSSS
LL          II      SS
LL          II      SS
LL          II      SS
LL          II      SS
LLLLLLLLLLL  IIIIII  SSSSSSSS
LLLLLLLLLLL  IIIIII  SSSSSSSS

```

1 4
16-Sep-1984 02:12:45
14-Sep-1984 12:46:37

VAX-11 Bliss-32 V4.0-742
[MTACCP.SRC]CREATE.B32;1

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(1)

```
0001 0
0002 0 MODULE CREATE (LANGUAGE (BLISS32) ,
0003 0 IDENT = 'V04-000' ,
0004 0 ) =
0005 1 BEGIN
0006 1
0007 1 *****
0008 1 *
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0026 1 *
0027 1 *****
0028 1
0029 1 ++
0030 1
0031 1 FACILITY: MTACCP
0032 1
0033 1 ABSTRACT:
0034 1
0035 1 This module executes the create function
0036 1
0037 1 ENVIRONMENT:
0038 1
0039 1 Starlet operating system, including privileged system services
0040 1 and internal exec routines.
0041 1
0042 1 --
0043 1
0044 1
0045 1
0046 1
0047 1 AUTHOR: D. H. GILLESPIE, CREATION DATE: 3-JUN-77
0048 1
0049 1 MODIFIED BY:
0050 1
0051 1 V03-002 MMD0153 Meg Dumont, 26-Apr-1983 9:08
0052 1 Change reference to 80 to the symbol ANSI LBLSZ. Add HDR4
0053 1 processing which includes: 1) Changing the number of HDRs
0054 1 to look for when positioning to write a file. 2) Add the
0055 1 writing of HDR4 to the routine WRITE_HEADERS.
0056 1
0057 1 V03-001 MMD0001 Meg Dumont, 5-Nov-1982 16:22
```



```
58 0058 1 Allow the setting of user handled EOT on a file create.
59 0059 1 Add routine to set user handled EOT.
60 0060 1
61 0061 1 V02-012 DMW0019 David Michael Walp 11-Nov-1980
62 0062 1 New BLISS compiler, FUNCTION declaration changed from
63 0063 1 BBLOCK to BLOCK. Old compiler use to give a longword
64 0064 1 with a declaration of 'BBLOCK [1]'.
65 0065 1
66 0066 1 V02-011 MCN0018 Maria del C. Nasr 26-Aug-1980
67 0067 1 Implement bug fix described in MCN0017
68 0068 1
69 0069 1 V02-010 MCN0017 Maria del C. Nasr 29-Jul-1980
70 0070 1 Check if EOT was sensed after writing the header labels of the
71 0071 1 file being created, instead of waiting for virtual IO to lock
72 0072 1 the error. Also, add a kernel mode routine which will update
73 0073 1 the partfile flag in the VCB, to account for cancel IO. This
74 0074 1 fixes a problem in which creating empty files at the end of a
75 0075 1 tape will cause a runaway tape situation.
76 0076 1
77 0077 1 V02-009 REFORMAT Maria del C. Nasr 30-Jun-1980
78 0078 1
79 0079 1 V02-008 SPR27361 Maria del C. Nasr 10-Jun-1980
80 0080 1 The file should be accessed after the tape is positioned
81 0081 1 right before the data starts, to make sure all IO has been
82 0082 1 completed. Also, eliminate user labels code.
83 0083 1
84 0084 1 A0007 MCN0011 Maria del C. Nasr 04-Feb-1980 9:05
85 0085 1 Clear logical end of volume flag after spacing tape mark
86 0086 1 back to fix bug.
87 0087 1
88 0088 1 A0006 MCN0003 Maria del C. Nasr 28-Sep-79 10:27
89 0089 1 Add HDR3 processing
90 0090 1
91 0091 1 A0005 MCN0001 Maria del C. Nasr 21-Sep-79 10:15
92 0092 1 Added argument to CHECK_FILE_ACC call to fix bug in
93 0093 1 "create if" function.
94 0094 1
95 0095 1
96 0096 1 **
97 0097 1
98 0098 1 LIBRARY 'SYSS$LIBRARY:LIB.L32';
99 0099 1
100 0100 1 REQUIRE 'SRC$:MTADEF.B32';
101 0484 1
102 0485 1 FORWARD ROUTINE
103 0486 1 MTA_CREATE : NOPRES NOVALUE, : main routine to create a file
104 0487 1 ACCESS_NEW_FILE : COMMON_CALL NOVALUE, : access a newly created file
105 0488 1 INIT_NEW_FILE : COMMON_CALL NOVALUE, : initialize new file
106 0489 1 SET_USER_EOT : COMMON_CALL NOVALUE, : set user wot handling for file
107 0490 1 WRITE_HEADERS : NOVALUE L$WRITE HEADER, : ! write hdr1, hdr2, and hdr3, hdr4
108 0491 1 UPD_PARTFILE : COMMON_CALL NOVALUE; : update partfile flag in the VCB
109 0492 1
110 0493 1 EXTERNAL ROUTINE
111 0494 1 ACCESS_FILE : COMMON_CALL, : access file
112 0495 1 CHECK_ACCESS : COMMON_CALL, : check access to volume
113 0496 1 CHECK_FILE_ACC : COMMON_CALL, : check access to file
114 0497 1 CLOSE_FILE : L$CLOSE_FILE, : close file
```

```
115 0498 1 FORMAT_FID : COMMON_CALL, : format file identifier
116 0499 1 FORMAT_HDRS : COMMON_CALL, : format headers
117 0500 1 GET_FIB : COMMON_CALL, : get copy of user's fib
118 0501 1 GET_START_HDR : LSGET_START_HDR, : get header to start with
119 0502 1 MOUNT_VOL : COMMON_CALL, : mount a volume
120 0503 1 NEXT_VOL_WRITE : LSNEXT_VOL_WRITE, : get next volume for write
121 0504 1 POSITION_TO_END : COMMON_CALL, : position to end of vol set
122 0505 1 READ_HDR : COMMON_CALL, : read header
123 0506 1 SPACE : COMMON_CALL, : space given number of blocks
124 0507 1 SPACE_TM : COMMON_CALL, : space given number of tape marks
125 0508 1 START_VIO : COMMON_CALL, : start virtual io
126 0509 1 SYSSFAO : ADDRESSING MODE (ABSOLUTE), : format ascii output
127 0510 1 UPDVCB_LEOV : COMMON_CALL, : to clear logical end of volume bit
128 0511 1 WRITE_BLOCK : COMMON_CALL, : write tape block
129 0512 1 WRITE_TM : LSWRITE_TM; : write tape mark
130 0513 1
131 0514 1 EXTERNAL
132 0515 1 CURRENT_WCB : REF BBLOCK, : address of current window control block
133 0516 1 IO_PACKET : REF BBLOCK, : address of io request packet
134 0517 1 IO_STATUS, : IO status returned
135 0518 1 HDR1 : REF BBLOCK, : address of HDR1(EOF1) label
136 0519 1 HDR2 : REF BBLOCK, : address of HDR2(EOF2) label
137 0520 1 HDR3 : REF BBLOCK, : address of HDR3 label(EOF3)
138 0521 1 HDR4 : REF BBLOCK, : address of HDR4 label(EOF4)
139 0522 1 USER_STATUS : VECTOR; : status to return the user
140 0523 1
```



```
142 0524 1 GLOBAL ROUTINE MTA_CREATE : NOPRES NOVALUE =
143 0525 1
144 0526 1 ++
145 0527 1
146 0528 1 FUNCTIONAL DESCRIPTION:
147 0529 1 This is the main processing routine for MTAACP create function
148 0530 1
149 0531 1 CALLING SEQUENCE:
150 0532 1 MTA_CREATE()
151 0533 1
152 0534 1 INPUT PARAMETERS:
153 0535 1 none
154 0536 1
155 0537 1 IMPLICIT INPUTS:
156 0538 1 HDR1 - address hdr1(eof1) label
157 0539 1 HDR2 - address hdr2(eof2) label
158 0540 1 HDR3 - address hdr3(eof3) label
159 0541 1 HDR4 - address hdr4(eof4) label
160 0542 1 IO_PACKET - address of current io request packet
161 0543 1 CURRENT_VCB - address of current vcb
162 0544 1
163 0545 1 OUTPUT PARAMETERS:
164 0546 1 none
165 0547 1
166 0548 1 IMPLICIT OUTPUTS:
167 0549 1 The header label set is written and the access to the file made if requested
168 0550 1
169 0551 1 ROUTINE VALUE:
170 0552 1 none
171 0553 1
172 0554 1 SIDE EFFECTS:
173 0555 1 none
174 0556 1
175 0557 1 USER ERRORS:
176 0558 1 $$$_BADPARAM - bad input parameters to create or must ask to write file
177 0559 1 $$$_FILALRACC - only one file at a time open on magnetic tape
178 0560 1 $$$_FILENOTEXP - the file about to be overlayed is not expired
179 0561 1 $$$_NOPRIV - the user does not have necessary privileges
180 0562 1 --
181 0563 1
182 0564 2 BEGIN
183 0565 2
184 0566 2 EXTERNAL REGISTER
185 0567 2 COMMON_REG;
186 0568 2
187 0569 2 LOCAL
188 0570 2 INC_SEQ_NUM, ! indicator for init_new_file routine
189 0571 2 PACKET : REF BBLOCK, ! address of current io request packet
190 0572 2
191 0573 2 ! address of buffer descriptors
192 0574 2
193 0575 2 ABD : REF BBLOCKVECTOR [, ABD$C_LENGTH],
194 0576 2 FIB : REF BBLOCK, ! address of copy of user's fib
195 0577 2 FUNCTION : BLOCK [1]; ! io function
196 0578 2
197 0579 2 ! setup pointers to interesting structures
198 0580 2
```

```
199 0581 PACKET = .IO_PACKET;
200 0582
201 0583 ! address of buffer descriptors
202 0584
203 0585 ABD = .BLOCK[.PACKET[IRP$L_SVAPTE], AIB$L_DESCRIPTOR];
204 0586 FIB = GET_FIB(.ABD); ! get copy of user's file information block
205 0587
206 0588 ! get io function code
207 0589
208 0590 FUNCTION = .PACKET[IRP$W_FUNC];
209 0591
210 0592 ! is the function requested a valid one?
211 0593
212 0594
213 0595 IF .FIB[FIB$V_TRUNC] OR .FUNCTION[IO$V_DELETE]
214 0596 OR ( NOT .FUNCTION[IO$V_CREATE] )
215 0597 AND
216 0598 (.FIB[FIB$V_EXTEND] OR .PACKET[IRP$W_BCNT] GTRU ABD$C_ATTRIB
217 0599 OR .FUNCTION[IO$V_ACCESS] )
218 0600 OR NOT .FIB[FIB$V_WRITE]
219 0601 AND
220 0602 .FUNCTION[IO$V_ACCESS]
221 0603 THEN
222 0604 ERR_EXIT(SS$_BADPARAM);
223 0605
224 0606 ! make sure that a create is not done on a volume set that has an out
225 0607 ! standing access
226 0608
227 0609
228 0610 IF .CURRENT_WCB NEQ 0
229 0611 AND
230 0612 .FUNCTION[IO$V_CREATE]
231 0613 THEN
232 0614 ERR_EXIT(SS$_FILALRACC);
233 0615
234 0616 ! now for the create
235 0617
236 0618
237 0619 IF .FUNCTION[IO$V_CREATE]
238 0620 THEN
239 0621 BEGIN
240 0622
241 0623 ! if there is a partial file then it is closed. if the user wants to
242 0624 ! access a partial file, the access function io must be used
243 0625
244 0626
245 0627 IF .CURRENT_VCB[VCB$V_PARTFILE]
246 0628 THEN
247 0629 CLOSE_FILE();
248 0630
249 0631 CHECK_ACCESS(1); ! MUST HAVE WRITE PRIVILEGE JUST TO CREATE
250 0632
251 0633 ! now position the tape as requested unless this is a create if not
252 0634 ! found
253 0635
254 0636
255 0637 IF .PACKET[IRP$V_FCODE] EQL IO$_ACCESS ! if create if not found
```

```

256      OR
257      NOT (.FIB[FIB$V_REWIND]
258      OR
259      .FIB[FIB$V_CURPOS])
260  THEN
261      POSITION_TO_END()
262  ELSE
263      BEGIN
264      IF .FIB[FIB$V_REWIND]
265      THEN
266          BEGIN
267              MOUNT_VOL(1, $FIELDMASK(MOU$V_REWIND) + $FIELDMASK(MOU$V_LBLCHECK));
268              IF NOT READ_HDR()
269              THEN
270                  ERR_EXIT(SS$_TAPEPOSLOST);
271              END
272          ELSE
273              ! create function with positioning indicators
274              !
275              GET_START_HDR();
276          END;
277      ! check expiration on overlayed files and position tape
278      !
279      IF NOT .CURRENT_VCB[VCB$V_LOGICEOVS]
280      THEN
281          BEGIN
282              ! overlaying file if not at end of volume set
283              INC_SEQ_NUM = 0; ! do not increment file number
284              CHECK_FILE_ACC(0); ! can file be overlayed? (0)=mta_create
285              ! position to where file is to be written
286              !
287              IF .CURRENT_VCB[VCB$B_TM] EQL 0
288              THEN
289                  IF (.HDR2[HD2$$_HD2LID] EQL 'HDR2')
290                  AND
291                  (.CURRENT_VCB[VCB$V_STARFILE])
292                  THEN
293                      IF .CURRENT_VCB[VCB$B_LBLCNT] GTR 3
294                      THEN SPACE(-4) ! hdr1, hdr2, hdr3, hdr4 (or user label)
295                      ELSE SPACE(-3) ! hdr1, hdr2, and hdr3 lbls
296                  ELSE
297                      SPACE(-2) ! not VMS file, space hdr1 and hdr2
298                  ELSE
299                      BEGIN
300                          SPACE_TM(-1); ! backspace tm
301                          IF .HDR2[HD2$$_HD2LID] EQL 'HDR2' ! check if hdr2 found
302                          THEN

```



```
313      SPACE(-2)          ! backspace hdr1 and hdr2
314      ELSE
315      SPACE(-1);          ! no hdr2, backspace hdr1 only
316
317      END;
318
319      END
320      ELSE
321      BEGIN
322      SPACE_TM(-1);          ! logical end indicated by tape mark
323      KERNEL_CALL(UPDVCB_LEOV, 0); ! not at end of vol anymore
324      INC_SEQ_NUM = 1;      ! increment file number
325      END;
326
327      ! initialize new file and write headers
328      FORMAT_HDRS();
329      KERNEL_CALL(INIT_NEW_FILE, .INC_SEQ_NUM);
330      WRITE_READERS();      ! write hdr1, hdr2, hdr3 and hdr4
331
332      ! return fid to user in fib
333      FORMAT_FID(FIB[FIB$W_FID_NUM]);
334      FIB[FIB$W_FID_RVN] = .CURRENT_VCB[VCB$B_CUR_RVN];
335
336      ! now if newly created file should be accessed do so
337
338      IF .FUNCTION[IOSV_ACCESS]
339      THEN
340      ACCESS_NEW_FILE(.FIB, .PACKET, .ABD);
341
342      END;
343
344      END;
345
346      ! end of routine
347      END;
```

```
.TITLE CREATE
.IDENT \V04-000\

.EXTRN ACCESS_FILE, CHECK_ACCESS
.EXTRN CHECK_FILE_ACC, CLOSE_FILE
.EXTRN FORMAT_FID, FORMAT_HDRS
.EXTRN GET_FIB, GET_START_HDR
.EXTRN MOUNT_VOL, NEXT_VOL_WRITE
.EXTRN POSITION_TO_END
.EXTRN READ_HDR, SPACE
.EXTRN SPACE_TM, START_VIO
.EXTRN SYSSFAO, UPDVCB_LEOV
.EXTRN WRITE_BLOCK, WRITE_TM
.EXTRN CURRENT_WCB, IO_PACKET
.EXTRN IO_STATUS, HDR1
.EXTRN HDR2, HDR3, HDR4
.EXTRN USER_STATUS, SYSSCMKRN

.PSECT $CODE$,NOWRT,2
```

CREATE
V04-000

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[MTAACP.SRC]CREATE.B32;1

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				0000	00000	.ENTRY	MTA CREATE, Save nothing	0524
		53	0000G	CF	DO 00002	MOVL	IO_PACKET, PACKET	0581
		56	2C	B3	DO 00007	MOVL	@42(PACKET), ABD	0585
				56	DD 0000B	PUSHL	ABD	0586
		0000G	CF	01	FB 0000D	CALLS	#1, GET_FIB	
		52		50	DO 00012	MOVL	R0, FIB	
		55	20	A3	3C 00015	MOVZWL	32(PACKET), FUNCTION	0590
		1F	17	A2	E8 00019	BLBS	23(FIB), 2\$	0595
1B		55		08	E0 0001D	BBS	#8, FUNCTION, 2\$	
				55	95 00021	TSTB	FUNCTION	0596
				0F	19 00023	BLSS	1\$	
			16	A2	95 00025	TSTB	22(FIB)	0598
				12	19 00028	BLSS	2\$	
		05	32	A3	B1 0002A	CMPL	50(PACKET), #5	
				0C	1A 0002E	BGTRU	2\$	
08		55		06	E0 00030	BBS	#5, FUNCTION, 2\$	0599
		06	01	A2	E8 00034	BLBS	1(FIB), 3\$	0600
02		55		06	E1 00038	BBC	#6, FUNCTION, 3\$	0602
				14	BF 0003C	CHMU	#20	0604
		0000G	CF	D5	0003E	TSTL	CURRENT_WCB	0610
				08	13 00042	BEQL	4\$	
				55	95 00044	TSTB	FUNCTION	0612
				04	18 00046	BGEQ	4\$	
		00A4		8F	BF 00048	CHMU	#164	0614
				55	95 0004C	TSTB	FUNCTION	0619
				01	19 0004E	BLSS	5\$	
					04 00050	RET		
		03	0B	AB	E9 00051	BLBC	11(CURRENT_VCB), 6\$	0627
				0000G	30 00055	BSBW	CLOSE_FILE	0629
				01	DD 00058	PUSHL	#1	0631
32	20	A3	0000G	CF	01 FB 0005A	CALLS	#1, CHECK_ACCESS	
		0F		00	ED 0005F	CMPL	#0, #6, 32(PACKET), #50	0637
		07		08	13 00065	BEQL	7\$	
				03	E0 00067	BBS	#3, (FIB), 9\$	0639
		0000G	CF	04	E0 0006B	BBS	#4, (FIB), 8\$	0641
				00	FB 0006F	CALLS	#0, POSITION_TO_END	0643
				1E	11 00074	BRB	11\$	
		17		03	E1 00076	BBC	#3, (FIB), 10\$	0647
				03	DD 0007A	PUSHL	#3	0650
				01	DD 0007C	PUSHL	#1	
		0000G	CF	02	FB 0007E	CALLS	#2, MOUNT_VOL	
		0000G	CF	00	FB 00083	CALLS	#0, READ_HDR	0652
				50	E8 00088	BLBS	R0, 11\$	
			0224	8F	BF 0008B	CHMU	#548	0654
				03	11 0008F	BRB	11\$	0647
				0000G	30 00091	BSBW	GET_START_HDR	0661
		4F	0B	AB	E0 00094	BBS	#1, 11(CURRENT_VCB), 16\$	0668
				54	D4 00099	CLRL	INC_SEQ_NUM	0671
				7E	D4 0009B	CLRL	-(SP)	0672
		0000G	CF	01	FB 0009D	CALLS	#1, CHECK_FILE_ACC	
				2E	AB 95 000A2	TSTB	46(CURRENT_VCB)	0677
				24	12 000A5	BNEQ	14\$	
		32524448	8F	0000G	DF D1 000A7	CMPL	@HDR2, #844252232	0680
				14	12 000B0	BNEQ	13\$	
				10	AB E9 000B2	BLBC	45(CURRENT_VCB), 13\$	0682
		03		48	AB 91 000B6	CMPL	72(CURRENT_VCB), #3	0684
				05	1B 000BA	BLEQU	12\$	

CREATE
V04-000

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[MTAACP.SRC]CREATE.B32;1

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	7E		04	CE	000BC		MNEGL	#4, -(SP)		0685
			20	11	000BF		BRB	15\$		
	7E		03	CE	000C1	12\$:	MNEGL	#3, -(SP)		0686
			1B	11	000C4		BRB	15\$		
	7E		02	CE	000C6	13\$:	MNEGL	#2, -(SP)		0688
			16	11	000C9		BRB	15\$		
	7E		01	CE	000CB	14\$:	MNEGL	#1, -(SP)		0691
0000G	CF		01	FB	000CE		CALLS	#1, SPACE_TM		
32524448	8F	0000G	DF	D1	000D3		CMPL	@HDR2, #844252232		0693
			E8	13	000DC		BEQL	13\$		
	7E		01	CE	000DE		MNEGL	#1, -(SP)		0697
0000G	CF		01	FB	000E1	15\$:	CALLS	#1, SPACE		
			1B	11	000E6		BRB	17\$		0668
	7E		01	CE	000E8	16\$:	MNEGL	#1, -(SP)		0704
0000G	CF		01	FB	000EB		CALLS	#1, SPACE_TM		
	7E		01	7D	000F0		MOVQ	#1, -(SP)		0705
			5E	DD	000F3		PUSHL	SP		
		0000G	CF	9F	000F5		PUSHAB	UPDVCB, LEOV		
00000000G	9F		04	FB	000F9		CALLS	#4, @#SYSS\$CMKRNL		
	54		01	DD	00100		MOVL	#1, INC_SEQ_NUM		0706
0000G	CF		00	FB	00103	17\$:	CALLS	#0, FORMAT_HDRS		0711
			54	DD	00108		PUSHL	INC_SEQ_NUM		0712
			01	DD	0010A		PUSHL	#1		
			5E	DD	0010C		PUSHL	SP		
		0000V	CF	9F	0010E		PUSHAB	INIT_NEW_FILE		
00000000G	9F		04	FB	00112		CALLS	#4, @#SYSS\$CMKRNL		
		0000V	30	00119		BSBW	WRITE_HEADERS			0713
		04	A2	9F	0011C		PUSHAB	4(FIB)		0717
	0000G	CF	01	FB	0011F		CALLS	#1, FORMAT_FID		
	08		2F	AB	9B	00124	MOVZBW	47(CURRENT_VCB), 8(FIB)		0718
09	55		06	E1	00129		BBC	#6, FUNCTION, 18\$		0723
		004C	8F	BB	0012D		PUSHR	#^M<R2,R3,R6>		0725
	0000V	CF	03	FB	00131		CALLS	#3, ACCESS_NEW_FILE		
			04	00136	18\$:	RET				0729

; Routine Size: 311 bytes, Routine Base: \$CODE\$ + 0000

; 348 0730 1


```
350 0731 1 GLOBAL ROUTINE ACCESS_NEW_FILE (FIB, PACKET, ABD) : COMMON_CALL NOVALUE =
351 0732 1
352 0733 1 ++
353 0734 1
354 0735 1 FUNCTIONAL DESCRIPTION:
355 0736 1     this routine accesses a newly created file
356 0737 1
357 0738 1 CALLING SEQUENCE:
358 0739 1     access_new_file(arg1,arg2,arg3)
359 0740 1
360 0741 1 INPUT PARAMETERS:
361 0742 1     arg1 - address of copy of user file identification block
362 0743 1     arg2 - address of current io request packet
363 0744 1     arg3 - address of buffer descriptor vectors
364 0745 1
365 0746 1 IMPLICIT INPUTS:
366 0747 1     none
367 0748 1
368 0749 1 OUTPUT PARAMETERS:
369 0750 1     none
370 0751 1
371 0752 1 IMPLICIT OUTPUTS:
372 0753 1     Changes made to system data base to allow virtual io.
373 0754 1     Tape mark is written.
374 0755 1
375 0756 1 ROUTINE VALUE:
376 0757 1     none
377 0758 1
378 0759 1 SIDE EFFECTS:
379 0760 1     none
380 0761 1
381 0762 1 --
382 0763 1
383 0764 2 BEGIN
384 0765 2
385 0766 2 EXTERNAL REGISTER
386 0767 2     COMMON_REG;
387 0768 2
388 0769 2 EXTERNAL
389 0770 2     USER_STATUS      : VECTOR;          ! status to return to user
390 0771 2
391 0772 2 MAP
392 0773 2     FIB      : REF BBLOCK,          ! file information block
393 0774 2     PACKET  : REF BBLOCK;          ! address of io request block
394 0775 2
395 0776 2 ! Write tape mark, create window, setup data base connections, complete io,
396 0777 2 ! and startup virtual io
397 0778 2
398 0779 2
399 0780 2 WRITE_TM();
400 0781 2
401 0782 2 ! If the USEREOT flag is set in the FIB block of the I/O then as long
402 0783 2 ! as this file is accessed allow user eot handling
403 0784 2
404 0785 2 KERNEL_CALL(SET_USER_EOT, .FIB);
405 0786 2
406 0787 2
```

CREATE
V04-000

F 5
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```

407 0788 2 ! If EOT is sensed, request a next volume, and clear the partial file flag
408 0789 2 ! since the end of volume labels will be written. If user handling of EOT
409 0790 2 ! is enabled then inform user of the condition.
410 0791 2
411 0792 2 IF NOT .CURRENT_VCB[VCB$V_ENUSEREOT]
412 0793 2 THEN
413 0794 2 BEGIN
414 0795 2
415 0796 2 IF .IO_STATUS EQL $$$_ENDOFTAPE
416 0797 2 THEN
417 0798 2 BEGIN
418 0799 2 KERNEL_CALL (UPD_PARTFILE, 0);
419 0800 2 NEXT_VOL_WRITE();
420 0801 2 END;
421 0802 2 END
422 0803 2 ELSE
423 0804 2 USER_STATUS[0] = .IO_STATUS;
424 0805 2
425 0806 2 ! return status to user
426 0807 2 ! I/O's will be blocked
427 0808 2 ! and completed in error
428 0809 2 ! by the driver
429 0810 2 KERNEL_CALL (ACCESS_FILE, .FIB[FIB$L_ACCTL], .PACKET[IRP$L_PID], 0, 1, .ABD);
430 0811 2 KERNEL_CALL (START_VIO);
! end of routine
END;
```

			07FC 00000	.ENTRY	ACCESS_NEW_FILE, Save R2,R3,R4,R5,R6,R7,R8,-;	0731
			0000G 30 00002	BSBW	R9,R10	
		04	AC DD 00005	PUSHL	WRITE_TM	0780
			01 DD 00008	PUSHL	FIB	0785
			5E DD 0000A	PUSHL	#1	
		0000V	CF 9F 0000C	PUSHL	SP	
			04 FB 00010	PUSHAB	SET_USER EOT	
20	00000000G 9F		01 E0 00017	CALLS	#4, @#SYSS\$CMKRNL	
	2D AB		01 E0 00017	BBS	#1, 45(CURRENT_VCB), 1\$	0792
	00000878 8F	0000G	CF D1 0001C	CMPL	IO_STATUS, #2188	0796
			1C 12 00025	BNEQ	2\$	
			01 7D 00027	MOVQ	#1, -(SP)	0799
			5E DD 0002A	PUSHL	SP	
		0000V	CF 9F 0002C	PUSHAB	UPD_PARTFILE	
			04 FB 00030	CALLS	#4, @#SYSS\$CMKRNL	
		0000G	30 00037	BSBW	NEXT_VOL_WRITE	0800
			07 11 0003A	BRB	2\$	0792
	0000G CF	0000G	CF D0 0003C 1\$:	MOVL	IO STATUS, USER_STATUS	0804
		0C	AC DD 00043 2\$:	PUSHL	ABD	0809
			01 DD 00046	PUSHL	#1	
			7E D4 00048	CLRL	-(SP)	
		08	AC D0 0004A	MOVL	PACKET, R0	
		0C	A0 DD 0004E	PUSHL	12(R0)	
		04	BC DD 00051	PUSHL	@FIB	
			05 DD 00054	PUSHL	#5	
			5E DD 00056	PUSHL	SP	
		0000G	CF 9F 00058	PUSHAB	ACCESS_FILE	
	00000000G 9F		08 FB 0005C	CALLS	#8, @#SYSS\$CMKRNL	

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7E	D4	00063
5E	DD	00065
CF	9F	00067
03	FB	0006B
	04	00072

```
CLRL      -(SP)
PUSHL     SP
PUSHAB    START VIO
CALLS     #3, @SYS$CMKRN
RET
```

0810
0811

: 431 0812 1

DA1
VO4


```
433 0813 1 GLOBAL ROUTINE SET_USER_EOT(FIB) : COMMON_CALL NOVALUE =
434 0814 1 ++
435 0815 1
436 0816 1 FUNCTIONAL DESCRIPTION:
437 0817 1
438 0818 1 This routine sets the Mode of the to user enabled EOT processing
439 0819 1 when the FIB$C_USEREOT bit is set in the FIB$W_CNTRLFUNC
440 0820 1
441 0821 1 CALLING SEQUENCE:
442 0822 1 set_user_eot(arg1)
443 0823 1
444 0824 1 INPUT PARAMETERS:
445 0825 1 Arg1 - address of copy of user file identification block
446 0826 1
447 0827 1 IMPLICIT INPUTS:
448 0828 1 none
449 0829 1
450 0830 1 OUTPUT PARAMETERS:
451 0831 1
452 0832 1 none
453 0833 1
454 0834 1 IMPLICIT OUTPUTS:
455 0835 1 VCB$W_MODE may be modified
456 0836 1
457 0837 1 ROUTINE VALUE:
458 0838 1 none
459 0839 1
460 0840 1 SIDE EFFECTS:
461 0841 1 none
462 0842 1
463 0843 1 --
464 0844 2 BEGIN
465 0845 2 EXTERNAL REGISTER
466 0846 2 COMMON_REG;
467 0847 2
468 0848 2 MAP
469 0849 2 FIB : REF BBLOCK; ! File information block
470 0850 2
471 0851 2 IF FIB[FIB$W_CNTRLFUNC] EQL FIB$C_USEREOT
472 0852 2 THEN
473 0853 2 CURRENT_VCB[VCB$V_ENUSEREOT] = 1
474 0854 1 END;
```

				0000 00000	.ENTRY SET_USER_EOT, Save nothing	0813
	50	04	AC	D0 00002	MOVL FIB, R0	0851
	OF	16	A0	B1 00006	CMPW 22(R0), #15	
			04	12 0000A	BNEQ 1\$	
2D	AB		02	88 0000C	BISB2 #2, 45(CURRENT_VCB)	0853
			04	00010 1\$:	RET	0854

; Routine Size: 17 bytes, Routine Base: \$CODE\$ + 01AA

CREATE
V04-000

: 475

0855 1

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DA
VO

01
52
55

```
477 0856 1 GLOBAL ROUTINE WRITE_HEADERS : L$WRITE_HEADER NOVALUE =
478 0857 1
479 0858 1 ++
480 0859 1
481 0860 1 FUNCTIONAL DESCRIPTION:
482 0861 1     this routine inserts the file section and sequence number into hdr1,
483 0862 1     inserts the header label identifiers, zeroes the block count, and
484 0863 1     writes hdr1, hdr2, hdr3, and hdr4.
485 0864 1
486 0865 1 CALLING SEQUENCE:
487 0866 1     write_headers()
488 0867 1
489 0868 1 INPUT PARAMETERS:
490 0869 1     none
491 0870 1
492 0871 1 IMPLICIT INPUTS:
493 0872 1     hdr1, hdr2, hdr3, and hdr4 partially formatted
494 0873 1
495 0874 1 OUTPUT PARAMETERS:
496 0875 1
497 0876 1     none
498 0877 1
499 0878 1 IMPLICIT OUTPUTS:
500 0879 1     hdr1, hdr2, hdr3 and hdr4 written
501 0880 1
502 0881 1 ROUTINE VALUE:
503 0882 1     none
504 0883 1
505 0884 1 SIDE EFFECTS:
506 0885 1     none
507 0886 1
508 0887 1 --
509 0888 1
510 0889 2 BEGIN
511 0890 2
512 0891 2 EXTERNAL REGISTER
513 0892 2     COMMON_REG;
514 0893 2
515 0894 2 LOCAL
516 0895 2
517 0896 2     ! descriptor for file section and sequence number
518 0897 2     !
519 0898 2     DESC : VECTOR [2];
520 0899 2
521 0900 2     ! store file section and sequence number
522 0901 2     !
523 0902 2     DESC[0] = HD1$$_FILESECNO + HD1$$_FILESEQNO;
524 0903 2     DESC[1] = HDR1[HD1$_FILESECNO];
525 0904 2     SYSSFAO(DESCRIPTOR('!4ZW!4ZW'),
526 0905 2         0,
527 0906 2         DESC,
528 0907 2         :CURRENT_VCB[VCB$_CUR_SEQ],
529 0908 2         :CURRENT_VCB[VCB$_CUR_NUM]);
530 0909 2
531 0910 2     ! zero block count
532 0911 2     !
533 0912 2     CH$FILL('0', HD1$$_BLOCKCNT, HDR1[HD1$_BLOCKCNT]);
```



```
0913      ! inserts header label identifiers
0914
0915      !
0916      HDR1[HD1$SL_HD1LID] = 'HDR1';
0917      HDR2[HD2$SL_HD2LID] = 'HDR2';
0918      HDR3[HD3$SL_HD3LID] = 'HDR3';
0919      HDR4[HD4$SL_HD4LID] = 'HDR4';
0920
0921      ! now write headers
0922
0923      WRITE_BLOCK(.HDR1, ANSI_LBLSZ);
0924      WRITE_BLOCK(.HDR2, ANSI_LBLSZ);
0925
0926      ! write hdr3 and hdr4 only if mount switch allows it
0927
0928      IF NOT .CURRENT_VCB[VCB$V_NOHDR3] AND .CURRENT_VCB[VCB$B_LBLCNT] GTR 2
0929      THEN
0930      BEGIN
0931          WRITE_BLOCK(.HDR3, ANSI_LBLSZ);
0932          IF .CURRENT_VCB[VCB$B_LBLCNT] GTR 3
0933          THEN WRITE_BLOCK(.HDR4, ANSI_LBLSZ);
0934      END;
0935
0936      END;
0937      ! end of routine
```

```
57 5A 34 21 57 5A 34 21 001BB P.AAB: .ASCII \!4ZW!4ZW\
                                001C3 .BLKB 1
                                00000008 001C4 P.AAA: .LONG 8
                                00000000 001C8 .ADDRESS P.AAB
```

```
007C 8F BB 0000 WRITE_HEADERS::
                                PUSH  #^M<R2,R3,R4,R5,R6>
                                SUB  #4, SP
                                PUSH  #8
                                ADD  #27, HDR1, DESCR+4
                                MOV  36(CURRENT_VCB), -(SP)
                                MOV  38(CURRENT_VCB), -(SP)
                                PUSH  DESCR
                                CL  -(SP)
                                PUSH  P.AAA
                                CALL  #5, @#SYSS$FA0
                                MOV  HDR1, R6
                                MOV  #0, (SP), #48, #6, 54(R6)
                                MOV  #827475016, (R6)
                                MOV  #844252232, @HDR2
                                MOV  #861029448, @HDR3
                                MOV  #877806664, @HDR4
                                MOV  #80, -(SP)
                                PUSH  R6
                                CALL  #2, WRITE_BLOCK
                                MOV  #80, -(SP)
```

04	AE	0000G	CF	24	AB	3C	00010	0902
			7E	26	AB	3C	00014	0903
			7E	08	AE	9F	00018	0908
				08	7E	D4	0001B	0907
				D8	AF	9F	0001D	0904
		00000000G	9F	05	FB	00020		
			56	0000G	CF	D0	00027	0912
06	30		6E		00	2C	0002C	
				36	A6		00031	
		0000G	66	31524448	8F	D0	00033	0916
			DF	32524448	8F	D0	0003A	0917
		0000G	DF	33524448	8F	D0	00043	0918
			DF	34524448	8F	D0	0004C	0919
		0000G	7E	50	8F	9A	00055	0923
					56	DD	00059	
		0000G	CF		02	FB	0005B	
			7E	50	8F	9A	00060	0924

CREATE
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0000G	CF	0000G	CF	DD	00064	PUSHL	HDR2	
			02	FB	00068	CALLS	#2, WRITE_BLOCK	
		2C	AB	95	0006D	TSTB	44(CURRENT_VCB)	0929
			26	19	00070	BLSS	1\$	
	02	48	AB	91	00072	CMPB	72(CURRENT_VCB), #2	
			20	1B	00076	BLEQU	1\$	
	7E	50	8F	9A	00078	MOVZBL	#80, -(SP)	0932
		0000G	CF	DD	0007C	PUSHL	HDR3	
0000G	CF		02	FB	00080	CALLS	#2, WRITE_BLOCK	
	03	48	AB	91	00085	CMPB	72(CURRENT_VCB), #3	0933
			0D	1B	00089	BLEQU	1\$	
	7E	50	8F	9A	0008B	MOVZBL	#80, -(SP)	0934
		0000G	CF	DD	0008F	PUSHL	HDR4	
0000G	CF		02	FB	00093	CALLS	#2, WRITE_BLOCK	
	5E		08	C0	00098	ADDL2	#8, SP	0937
		007C	8F	BA	0009B	POPR	#^M<R2,R3,R4,R5,R6>	
			05	0009F	RSB			

; Routine Size: 160 bytes, Routine Base: \$CODE\$ + 01CC

; 559 0938 1

```
561 0939 1 ROUTINE INIT_NEW_FILE (INC_SEQ_NUM) : COMMON_CALL NOVALUE =
562 0940 1
563 0941 1 ++
564 0942 1
565 0943 1 FUNCTIONAL DESCRIPTION:
566 0944 1     this routine initializes the file identifier and sets status
567 0945 1     indicators.
568 0946 1
569 0947 1 CALLING SEQUENCE:
570 0948 1     INIT_NEW_FILE(ARG1), called in kernel mode
571 0949 1
572 0950 1 INPUT PARAMETERS:
573 0951 1     INC_SEQ_NUM - INDICATES IF THE CURRENT FILE NUMBER IN THE vcb
574 0952 1                 should be incremented or not.
575 0953 1
576 0954 1 IMPLICIT INPUTS:
577 0955 1     CURRENT_VCB - address of current volume control block
578 0956 1
579 0957 1 OUTPUT PARAMETERS:
580 0958 1     none
581 0959 1
582 0960 1 IMPLICIT OUTPUTS:
583 0961 1     current file id, starlet file indicator updated
584 0962 1
585 0963 1 ROUTINE VALUE:
586 0964 1     none
587 0965 1
588 0966 1 SIDE EFFECTS:
589 0967 1     none
590 0968 1
591 0969 1 --
592 0970 1
593 0971 2 BEGIN
594 0972 2
595 0973 2 EXTERNAL REGISTER
596 0974 2     COMMON_REG;
597 0975 2
598 0976 2 ! if end of volume set or dummy file, inc file number
599 0977 2 !
600 0978 2
601 0979 2 IF .INC_SEQ_NUM
602 0980 2     OR
603 0981 2     (.CURRENT_VCB[VCBSB_CUR_RVN] EQL 1 AND .CURRENT_VCB[VCBSW_CUR_NUM] EQL 0)
604 0982 2 THEN
605 0983 2     CURRENT_VCB[VCBSW_CUR_NUM] = .CURRENT_VCB[VCBSW_CUR_NUM] + 1;
606 0984 2
607 0985 2 CURRENT_VCB[VCBSW_CUR_SEQ] = 1;
608 0986 2 CURRENT_VCB[VCBSV_STARFILE] = 1;
609 0987 2 CURRENT_VCB[VCBSB_LBLCNT] = NO_OF_SUPPORT_ANSI_LABELS;
610 0988 2
611 0989 2 ! set status indicators to show partial file
612 0990 2 !
613 0991 2 CURRENT_VCB[VCBSV_PARTFILE] = 1;
614 0992 1 END;                                     ! end of routine
```

CREATE
V04-000

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0000 00000 INIT_NEW_FILE:			
	0B	04	AC E8 00002
	01	2F	AB 91 00006
		08	12 0000A
		24	AB B5 0000C
		03	12 0000F
		24	AB B6 00011 1\$:
26	AB	01	B0 00014 2\$:
2D	AB	01	88 00018
48	AB	04	90 0001C
0B	AB	01	88 00020
		04	00024
			WORD Save nothing
			BLBS INC SEQ NUM, 1\$
			CMPB 47(CURRENT_VCB), #1
			BNEQ 2\$
			TSTW 36(CURRENT_VCB)
			BNEQ 2\$
			INCW 36(CURRENT_VCB)
			MOVW #1, 38(CURRENT_VCB)
			BISB2 #1, 45(CURRENT_VCB)
			MOVB #4, 72(CURRENT_VCB)
			BISB2 #1, 11(CURRENT_VCB)
			RET

: 0939
: 0979
: 0981
: 0983
: 0985
: 0986
: 0987
: 0991
: 0992

; Routine Size: 37 bytes, Routine Base: \$CODE\$ + 026C

; 615 0993 1


```
: 617      0994 1 ROUTINE UPD_PARTFILE (BIT_VALUE) : COMMON_CALL NOVALUE =
: 618      0995 1
: 619      0996 1 ++
: 620      0997 1
: 621      0998 1 FUNCTIONAL DESCRIPTION:
: 622      0999 1     This routine clears or sets the partial file flag in the VCB.
: 623      1000 1
: 624      1001 1 CALLING SEQUENCE:
: 625      1002 1     UPD_PARTFILE(ARG1), called in kernel mode
: 626      1003 1
: 627      1004 1 INPUT PARAMETERS:
: 628      1005 1     Value to which flag should be set to:
: 629      1006 1         0 - clear flag
: 630      1007 1         1 - set flag
: 631      1008 1
: 632      1009 1 IMPLICIT INPUTS:
: 633      1010 1     CURRENT_VCB
: 634      1011 1
: 635      1012 1 OUTPUT PARAMETERS:
: 636      1013 1     none
: 637      1014 1
: 638      1015 1 IMPLICIT OUTPUTS:
: 639      1016 1     PARTFILE flag in VCB is updated
: 640      1017 1
: 641      1018 1 ROUTINE VALUE:
: 642      1019 1     none
: 643      1020 1
: 644      1021 1 SIDE EFFECTS:
: 645      1022 1     none
: 646      1023 1
: 647      1024 1 --
: 648      1025 1
: 649      1026 2 BEGIN
: 650      1027 2
: 651      1028 2 EXTERNAL REGISTER
: 652      1029 2     COMMON_REG;
: 653      1030 2
: 654      1031 2 ! Update Partial file flag in the VCB
: 655      1032 2 !
: 656      1033 2 CURRENT_VCB[VCB$V_PARTFILE] = .BIT_VALUE;
: 657      1034 2
: 658      1035 1 END;                                     ! end of routine
```

0000 00000 UPD_PARTFILE:

OB	AB	01	00	04	AC	FO 00002	WORD	Save nothing	
						04 00009	INSV	BIT_VALUE, #0, #1, 11(CURRENT_VCB)	: 0994
							RET		: 1033
									: 1035

; Routine Size: 10 bytes, Routine Base: \$CODE\$ + 0291

```
: 659      1036 1
: 660      1037 1 END
```

CREATE
V04-000

C 6
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: 661 1038 1
: 662 1039 0 ELUDOM

PSECT SUMMARY

: Name Bytes Attributes
: \$CODE\$ 667 NOVEC,NOWRT, RD , EXE,NOSHR, LCL, REL, CON,NOPI,ALIGN(2)

Library Statistics

: File Total Symbols Loaded Percent Pages Mapped Processing Time
: _\$255\$DUA28:[SYSLIB]LIB.L32;1 18619 50 0 1000 00:01.8

COMMAND QUALIFIERS

: BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS\$:CREATE/OBJ=OBJ\$:CREATE MSRC\$:CREATE/UPDATE=(ENHS\$:CREATE)

: Size: 650 code + 17 data bytes
: Run Time: 00:16.3
: Elapsed Time: 00:54.4
: Lines/CPU Min: 3822
: Lexemes/CPU-Min: 19074
: Memory Used: 153 pages
: Compilation Complete

0254 AH-BT13A-SE
VAX/VMS V4.0

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